

DIRECTIONS  
FOR  
PRESERVING THE HEALTH  
OF  
SOLDIERS,  
ADDRESSED TO THE OFFICERS OF THE ARMY  
OF THE  
UNITED STATES,  
BY BENJAMIN RUSH, M. D.  
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*Published by order of the Board of War.*

At a Board of War, September 5th, 1777,  
Ordered, that Dr. B. Rush be requested to republish, in a  
small pamphlet, certain Directions for preserving the Health  
of Soldiers; published in the Pennsylvania Packet, No. 284,  
with such additions and alterations as he shall think proper.

Extract from the minutes,  
RICHARD PETERS, Secretary.

## DIRECTIONS, &c.

FATAL experience has taught the people of America that a greater proportion of men have perished with sickness in our armies than have fallen by the sword. The two last campaigns produced melancholy proofs of this assertion. But we ought to consider upon this occasion, not only the mere loss of those worthy citizens who perished in this manner. The complicated distress, which accompanied their sickness and death, should never be forgotten. The gallant youth who had torn himself from the arms of his parents, or the partner of his joys, who had plighted his life to his country in the field, and who perhaps, in the enthusiasm of his military ardor, has courted death from a musket or a cannon ball, was often forced from the scene of action and glory by the attack of a fever, and obliged to languish for days or weeks in a hospital; and, at last, to close his eyes, deprived of the sweet consolation of a dying soldier, the thoughts of ending his life in the arms of victory, or in an act of just resentment against the enemies of the liberties of his country.

The munificence of the congress has made the most ample provision for lessening the calamities

of war from sickness in their armies, and, if possible, to prevent it altogether; for I maintain that the mortality from sickness in camps is not necessarily connected with a soldier's life: It was unknown to the armies of ancient Greece and Rome. Their armies had no diseases peculiar to themselves; nor were the diseases, to which their soldiers were subject, attended with any peculiar symptoms. But the munificence of the congress, and the skill of physicians and surgeons, will avail but little in preventing mortality from sickness among our soldiers, without the concurrence of the officers of the army. Your authority, gentlemen, is absolutely necessary to enforce the most salutary plan, and precepts for preserving the health of the soldiers. Your own personal safety is concerned in concurring in the plan adopted by the congress. But if this were not the case, I am persuaded humanity and patriotism would not plead in vain in favour of those brave men, whose lives are committed to your care by the suffrages of your country.

The art of preserving the health of a soldier consists in attending to the following particulars: 1 DRESS. 2 DIET. 3 CLEANLINESS. 4 ENCAMPMENTS. And, 5 EXERCISE.

1. The *Dress* of a soldier has a great influence upon his health. It is to be lamented, that the peculiar situation of our country, from the infancy of our foreign trade and domestic manufactures, has obliged us to clothe our soldiers chiefly in linen. It is a well known fact, that the perspiration of the

body, by attaching itself to linen, and afterwards, by mixing with rain, is disposed to form miasmata, which produce fevers. Upon this account I could wish the rifle shirt was banished from our army. Besides accumulating putrid miasmata, it conceals filth, and prevents a due regard being paid to cleanliness. The Roman soldiers wore flannel shirts next to their skins. This was one among other causes of the healthiness of the Roman armies. During the last war in America, general (then colonel) Gage obliged the soldiers of his regiment to wear flannel shirts, from an accidental want of linen; and it was remarkable, during a sickly campaign on the lakes, not a single soldier, belonging to that regiment was ever seen in any of the military hospitals. I have known several instances where the yearly visits of the intermitting fever have been checked in the state of Pennsylvania, in places most subject to that disease, by nothing else but the use of flannel shirts.

The hair, by being long uncombed, is apt to accumulate the perspiration of the head, which by becoming putrid sometimes produces diseases. There are two methods of guarding against this evil: the first is by combing and dressing the hair every day; the second is by wearing it thin and short in the neck. The former is attended with delays often incompatible with the duty of a soldier; and therefore the latter is to be preferred to it. This ~~easy~~ mode of wearing the hair is strongly recommended by count Saxe, and by all modern writers on the military art.

2. The *Diet* of soldiers should consist *chiefly* of vegetables. The nature of their duty, as well as their former habits of life, require it. If every tree on the continent of America produced Jesuit's bark, it would not be sufficient to preserve or to restore the health of soldiers who eat one or two pounds of flesh in a day. Their vegetables should be well cooked. It is of the last consequence that damaged flour should not be used in the camp. It is the seed of many diseases. It is of equal consequence that good flour should not be rendered unwholesome by an error in making it into bread. Perhaps it was the danger to which flour was always exposed of being damaged in a camp, or being rendered unwholesome from the manner of baking it, that led the Roman generals to use wheat instead of flour, for the daily food of their soldiers. Cæsar fed his troops with wheat only, in his expedition into Gaul. It was prepared by being husked and well boiled; and was eaten with spoons in the room of bread. If a little sugar or molasses is added to wheat prepared in this manner, it forms not only a wholesome food, but a most agreeable repast.

What shall I say to the custom of drinking spirituous liquors, which prevails so generally in our army? I am aware of the prejudices in favour of it. It requires an arm more powerful than mine; the arm of a Hercules to encounter it. The common apology for the use of rum in our army is, that it is necessary to guard against the effects of heat and cold. But I maintain, that in no case

whatever, does rum abate the effects of either of them upon the constitution. On the contrary I believe it always increases them. The temporary elevation of spirits in summer, and the temporary generation of warmth in winter, produced by rum, always leave the body languid, and more liable to be affected with heat and cold afterwards. Happy would it be for our soldiers, if the evil ended here! The use of rum, by gradually wearing away the powers of the system, lays the foundation of fevers, fluxes, jaundices, and the most of diseases which occur in military hospitals. It is a vulgar error to suppose that the fatigue arising from violent exercise or hard labour is relieved by the use of spirituous liquors. The principles of animal life are the same in a horse as in a man; and horses, we find undergo the severest labour with no other liquor than cool water. There are many instances where even reapers have been forced to acknowledge that plentiful draughts of milk and water have enabled them to go through the fatigues of harvest with more pleasure and fewer inconveniences to their health, than ever they experienced from the use of a mixture of rum and water.

Spirituous liquors were unknown to the armies of ancient Rome. The canteen of every soldier was filled with nothing but vinegar; and it was by frequently drinking a small quantity of this wholesome liquor mixed with water, that the Roman soldiers were enabled to sustain tedious marches through scorching sands, without being subject

to sickness of any kind. The vinegar effectually resists that tendency to putrefaction, to which heat and labour dispose the fluids. It moreover calms the inordinate action of the solids, which is created by hard duty. It would be foreign to my purpose, or I might show that the abstraction of rum from our soldiers, would contribute greatly to promote discipline and a faithful discharge of duty among them. General Wolfe, who was a philosopher as well as a general, never suffered a drop of spirits to be drunk by his soldiers, except when they served as sentries or upon fatigue duty in rainy weather. Perhaps these are the only cases in which a small quantity of rum may be useful. It will be of the most essential service if it be mixed with three or four times its quantity of water.

3. Too much cannot be said in favour of *Cleanliness*. If soldiers grew as speedily and spontaneously as blades of grass on the continent of America, the want of cleanliness would reduce them in two or three campaigns to a handful of men. It should extend, 1. To the *body* of a soldier. He should be obliged to wash his hands and face at least once every day, and his whole body two or three times a week, especially in summer. The cold bath was part of the military discipline of the Roman soldiers, and contributed much to preserve their health. 2. It should extend to the *clothes* of a soldier. Frequent changes of linen are indispensably necessary; and unless a strict regard is paid to this articles, all our pains to preserve the health of our

soldiers, will be to no purpose, 3. It should extend to the *food* of a soldier. Great care should be taken that the vessels in which he cooks his victuals should be carefully washed after each time of their being used.

Too many soldiers should not be allowed on any pretence whatever to crowd into the same tent or quarter. The gaol fever is the offspring of the perspiration and respiration of human bodies brought into a compass too narrow to be diluted, and rendered inert by a mixture with the atmosphere.

It has been remarked that the men are most healthy when the exigencies of a campaign have made it necessary for an army to send off their tents. This must be occasioned by the tents being rendered unhealthy from being too much crowded, or from not being kept clean.

The straw or hay which composes the bed of a soldier, should be often changed, and his blanket should be exposed every day to the sun. This will prevent the perspiration from becoming morbid and dangerous by accumulating upon it.

The commanding officer should take the utmost care never to suffer a soldier to sleep, or even to sit down in his tent with wet clothes, nor to lie down in a wet blanket or upon damp straw. The utmost vigilance will be necessary to guard against this fruitful source of diseases among soldiers.

The environs of each tent, and of the camp in general, should be kept perfectly clean of the offals of animals and of filth of all kinds. They should

be buried or carefully removed every day beyond the neighbourhood of the camp.

4. The formation of an *Encampment* is of the utmost importance to the health of an army. It is to no purpose to seek for security from an enemy in the wisest disposition of troops in a country where marshes and mill-ponds let loose intermitting fevers upon them. Sometimes it may be necessary to encamp an army upon the side of a river. Previously to this step, it is the duty of the quarter master to inquire from what quarter the winds come at the season of his encampment. If they pass across the river before they reach his army, they will probably bring with them the seeds of bilious and intermitting fevers, and this will more especially be the case in the fall of the year. The British troops at Pensacola, by shifting their quarters every year, so as to avoid the winds that come over a river in the neighbourhood of the town, at a certain season, have preserved their health in a manner scarcely so be paralleled in so warm a climate.

Frequently changing the spot of an encampment has been found to contribute greatly to the health of an army. It effectually guards the men against the effects of those offal matters which are so small, or so concealed, as to elude the vigilance of an officer.

If it is the duty of the commanding officer of a division or detachment of the army, to avoid as much as possible, exposing his troops to *unneces-*

*sary* fatigue, or watchfulness. The daily exercises of the manual, and manœuvres, (which contribute to the health of soldiers) as also all marches, should be performed in the cool of the morning and evening in summer. Sentries should always be provided with watchcoats; and they should be *often* relieved in very hot, cold, and rainy weather.

It is a good custom for a sentry always to eat a hearty meal before he enters upon duty in cold weather. The gentle fever excited by his food contributes to guard him in a degree against the effects of the cold.

5. Idleness is the bane of a soldier. It exposes him to temptations not only to every kind of military vice, but to every species of military disorder. But his exercise should be *regular*, and performed at *stated* periods; nor should it be suspended during his recess from the toils of war in his winter quarters. "We remark (says Montesquieu in his excellent treatise on the rise and fall of the Roman greatness) in modern times, that our soldiers perish from *immoderate* fatigue, notwithstanding it was by immense labour the Romans preserved their armies. The reason I believe was, their labour was *constant*, whereas among us our soldiers pass from the extremes of labour to the extremes of idleness, than which nothing can be more destructive to the lives of men."

The fire and smoke of wood, as also the burning of sulphur, and the explosion of gunpowder, have a singular efficacy in preserving and restoring

the purity of the air. There was an instance in the last war between Britain and France, of a ship in sir Edward Hawke's fleet, that had above a hundred men on board ill with a low fever. This ship was obliged to bear her part in the well known battle between sir Edward and Monsieur Conflans. A few days after the engagement, every man on board this ship recovered, and an entire stop was put to the progress of the disease. This extraordinary event was thought to be occasioned by the explosion and effluvia of the gunpowder.

I shall conclude these directions by suggesting a few hints which appear to be worthy of the attention of the gentlemen of the army.

Consider in the first place, that the principle study of an officer, in the time of war, should be to save the blood of his men. An heroic exploit is admired most when it has been performed with the loss of a few lives. But if it be meritorious to save the lives of soldiers by skill and attention in the field, why should it be thought less so to preserve them by skill and attention of another kind in a march, or an encampment? And on the contrary, if it be criminal in an officer to sacrifice the lives of thousands by his temerity in a battle, why should it be thought less so to sacrifice twice their number in a hospital, by his negligence?

Consider in the second place, that an attention to the health of your soldiers is absolutely necessary to form a *great* military character. Had it not been for this eminent quality, Xenophon would

never have led ten thousand Greeks for sixteen months through a cold and most inhospitable country; nor would Fabius have kept that army together, without it, which conquered Hannibal, and delivered Rome.

Consider thirdly, that the discipline necessary to make an army victorious, requires that the principle of self-preservation should in some measure be suspended in a soldier. If he be taught that it is a crime to have a single thought about his life in the field, he will soon transfer the same indifference about his life to the camp, or to his quarters. It argues therefore a want of understanding in an officer to charge his men with carelessness of their health and lives. Julius Cæsar wanted nothing but strength in a man to make him a soldier. He supplied every other want from his own great fund of military qualities. Nature has given the Americans strength; and the cause of liberty has given them principle above the common soldiers of any other army upon the face of the earth. The blame, therefore, will only be yours, if they are not made superior to them in all the arts which improve and adorn a soldier's person and character.

Lastly. Consider that your country and posterity look up to you for the preservation of the only means of establishing the liberties of America. The wisdom and eloquence of writers and orators have long since yielded to the more powerful oratory of our sword. All our hopes, therefore, are in our army. But if any thing can be added to

these motives, consider further, that there is scarcely a soldier under your command who has not a mother, a wife, a sister, or a child. These helpless members of society made great sacrifices to their country when they urged the beloved objects of their affection to follow the recruiting drum to the camp. Whenever, therefore, your duty requires that you should attend to the health of your men, imagine you see *one* or perhaps *all* of their female and helpless connexions standing at the door of your tents or quarters, and beseeching you by the remembrance of the pleasures you have enjoyed, and by the prospect of the pleasures you expect, in those connexions, to repair immediately to the tents or huts of your men, and to attend to every thing which reason and conscience tell you are necessary for the preservation of their health and lives.